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U. S. Department of Agriculture

Dairy Production

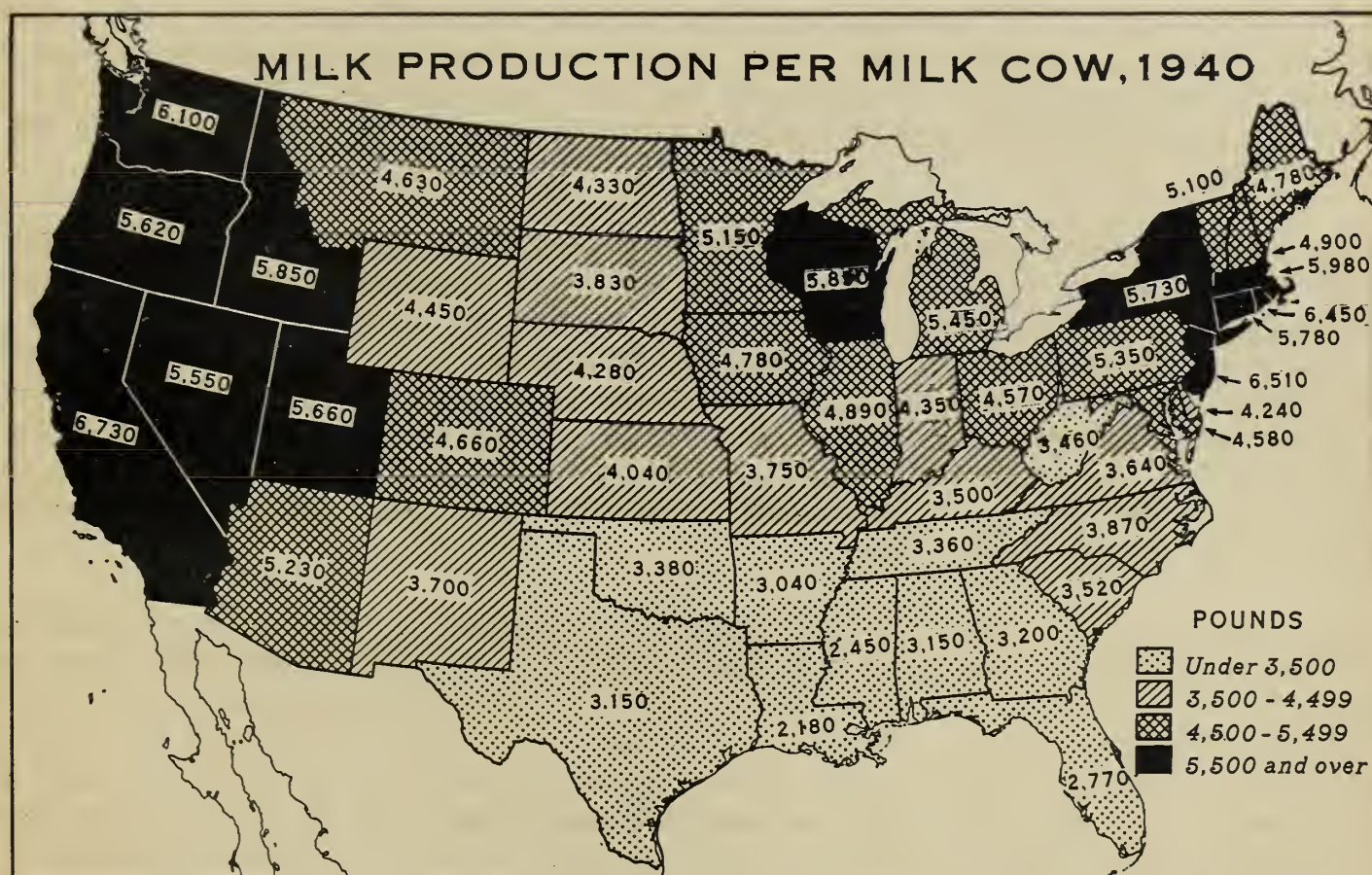
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AGRICULTURAL MARKETING SERVICE

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AGRICULTURAL MARKETING SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

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U. S. DEPARTMENT OF AGRICULTURE

NEG. 452

AGRICULTURAL MARKETING SERVICE

ANNUAL MILK PRODUCTION PER MILK COW IS HIGH IN THE INTENSIVE DAIRYING REGIONS WHERE MILK CAN BE SOLD AT A GOOD PRICE RELATIVE TO FEED COSTS AND WHERE IT IS PROFITABLE TO KEEP GOOD COWS AND FEED THEM WELL. PRODUCTION PER COW IS LOW IN STATES WHERE MANY OF THE MILK COWS ARE OF BEEF BREEDING OR WHERE CONDITIONS ARE RELATIVELY UNFAVORABLE FOR COMMERCIAL DAIRYING SO THAT ONLY A SMALL PROPORTION OF THE FARMERS KEEP MORE THAN 2 OR 3 MILK COWS. THE CAUSES AND SIGNIFICANCE OF THESE REGIONAL DIFFERENCES ARE EXPLAINED ON PAGE 10.

DAIRY PRODUCTION SUMMARY

Milk production continued heavy through May, and compared with the same month last year the estimate of May production shows an increase of nearly 7 percent, the largest percentage gain so far this year. Compared with the 1935-39 period, and allowing for population growth, production per capita was between 7 and 8 percent above average.

The seasonal increase in production between May 1 and June 1 was less than usual partly because of the high production on May 1 and partly because pastures were beginning to get short before the rains of early June. The prospects for late June and July are not yet clear but it seems likely that production will continue heavy except in parts of the South.

Pastures, which started early and pushed up milk production in early May, declined sharply during the month as drought conditions developed east of the Mississippi River. In most of the dry area pastures were helped by rains and cooler weather in early June, but through the 12th of this month there were still some seriously dry areas in northern New York and Vermont and also numerous areas in the eastern Cotton Belt where the drought had not been broken. Pastures were eaten short over a large area but should recover quickly except in dry localities or where heavily stocked.

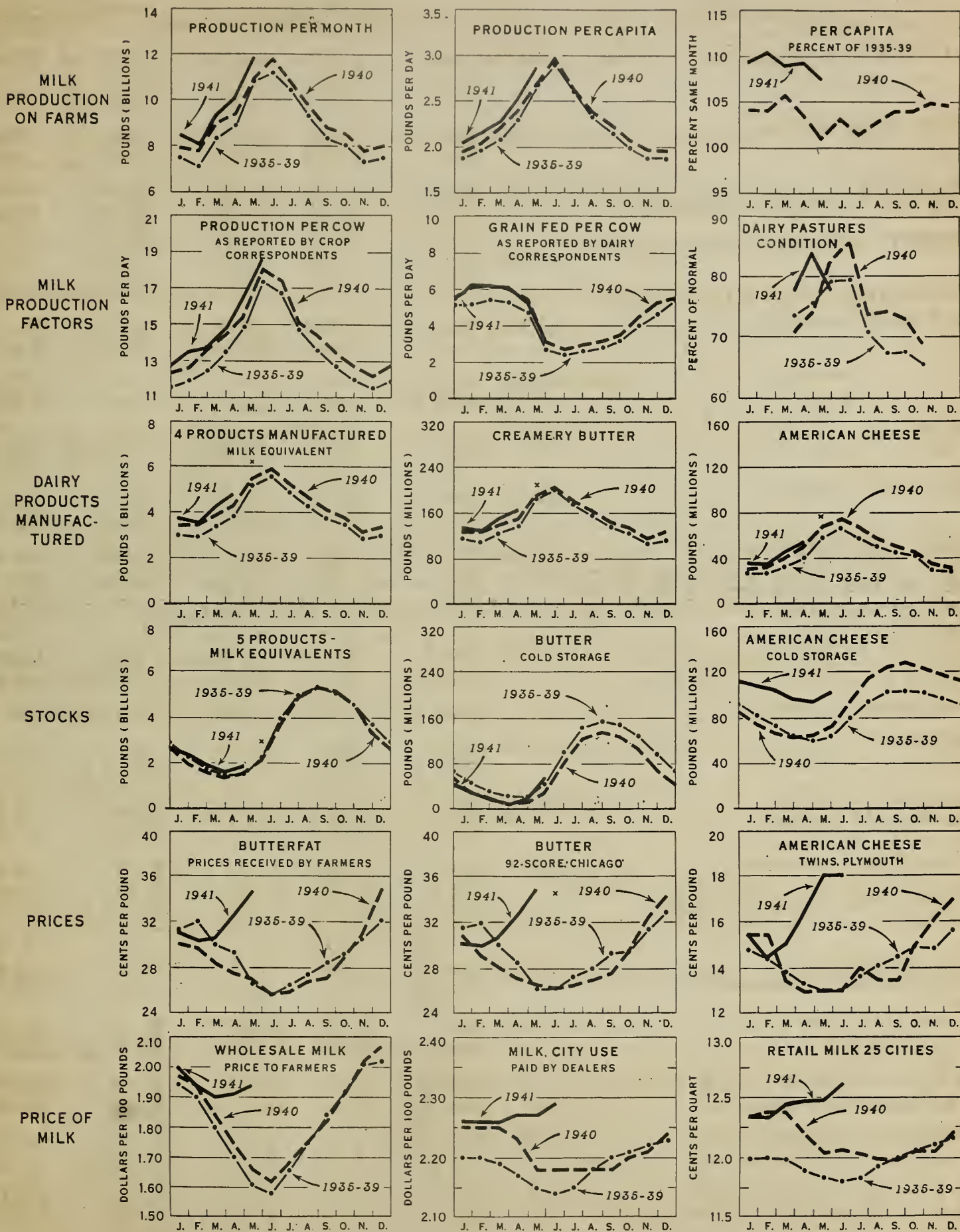
Hay prospects are poor in the east, but good from Michigan and Illinois westward. In the North Atlantic States and parts of Maryland and eastern Ohio early cuttings of hay were hurt. Even allowing for stocks on hand, for recovery of alfalfa and some other kinds of hay, and for emergency plantings, the hay supply of the area seems likely to be one of the smallest in recent years. This will affect costs but may not affect production. The western side of the Mississippi Valley had frequent rains in early June that have interfered with harvesting but should help pastures, particularly in the North where May was dry. National prospects for feed crops still appear favorable.

The production of manufactured dairy products during May was outstandingly heavy. The aggregate increase in the four principal products over last year and over average would account for nearly all of the estimated increase in milk production. In May creamery butter production showed an increase of nearly 11 percent and cheese more than 15 percent over a year ago. Trade reports indicate some increases in sales of milk for fluid consumption but these may be due in part to shifts of people from small towns and rural areas. Prices are now unfavorable for farm butter production and creamery butter production has been heavy in farm butter territory.

Aggregate stocks of dairy products increased much more rapidly than usual during May. Most of the May increase of creamery butter production over the usual level appeared in the cold storage totals for June 1. Stocks are likely to show the disturbing effects of war conditions this year.

Prices of butter and cheese held close to the high levels of a month ago, and 32 and 38 percent above a year ago. Milk for city use averages 5 percent above a year ago. Wholesale prices of commercial feeds average about 5 percent above a year ago. Butter and cheese are unusually high compared with market milk. Dairy products as a group are high in price compared with feed.

DAIRY PRODUCTION: GRAPHIC SUMMARY FOR THE UNITED STATES



* APPROXIMATION BASED ON INFORMATION AVAILABLE TO ABOUT 12TH OF CURRENT MONTH

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Dairy Production

June 16, 1941

SUMMARY OF DAIRY STATISTICS FOR THE UNITED STATES

					1941			
					Average 1935-39	1940	Total or average	Percent of 1940
MILK PRODUCTION ON FARMS								
Total, per month..... mil.lb.	Mar.	8,342	9,006	9,331 <u>a/</u>	103.6			
	Apr.	8,928	9,444	10,020 <u>a/</u>	106.1			
	May	10,719	11,076	11,826 <u>a/</u>	106.8			
Per capita, daily average..... lb.	Apr.	2.304	2.390	2.519 <u>a/</u>	105.4			
	May	2.676	2.712	2.876 <u>a/</u>	106.0			
Per cow, per day..... lb.	Apr. 1	13.52	14.45	14.84	102.7			
(As reported by crop correspondents)	May 1	14.87	15.42	16.54	107.3			
	June 1	17.35	18.03	18.55	102.9			
DAIRY PASTURES: Condition, % of normal.....pct.								
	May 1	75.5	74.0	83.9	113.4			
	June 1	79.2	82.6	77.8	94.2			
PRODUCTION OF MANUFACTURED DAIRY PRODUCTS								
Creamery butter, monthly..... mil.lb.	Apr.	137.9	153.0 <u>b/</u>	163.5 <u>b/</u>	106.9			
	May	186.8	191.8 <u>b/</u>	212.3 <u>a/</u>	110.7			
weekly.....week ending	May 29	--	--	--	105.0			
	June 5	--	--	--	100.5			
American cheese.....mil.lb.	Apr.	39.9	48.6 <u>b/</u>	54.1 <u>b/</u>	111.3			
	May	58.1	65.7 <u>b/</u>	75.9 <u>a/</u>	115.5			
Evaporated milk, case.....mil.lb.	Mar.	159.8	199.6	203.6	102.0			
	Apr.	189.6	230.4	258.0	112.0			
4 products, milk equivalent.....mil.lb.	Mar.	3,440	3,931	4,217	107.3			
(Creamery butter x 21, all cheese except skim	Apr.	3,855	4,387	4,751	108.3			
x 10, canned cond. & evap. milk x 2.2)	May	5,235	5,518	--	113.5 <u>c/</u>			
STOCKS ON HAND								
Butter in cold storage.....mil.lb.	May 1	21.6	9.5	17.8	187.4			
(Including government holdings)	June 1	43.4	25.5	56.4 <u>a/</u>	221.2			
Commercial holdings, only.....	June 1	32.6	25.2	55.1 <u>a/</u>	218.7			
American cheese.....mil.lb.	May 1	60.3	65.4	94.6	144.6			
(Cold storage holdings)	June 1	64.2	73.6	102.8 <u>a/</u>	139.7			
Evaporated milk, case.....mil.lb.	Apr. 1	93.8	173.4	136.1	78.5			
(Manufacturers' stocks)	May 1	116.7	207.7	126.2	60.8			
5 products, milk equivalent.....mil.lb.	Apr. 1	1,470	1,372	1,645	119.9			
(Butter, all cheese, canned cond. & evap.	May 1	1,476	1,507	1,815	120.4			
milk plus cream in cold storage)	June 1	2,266	2,193	2,978 <u>c/</u>	135.8			
PRICES								
Butterfat, per pound.....ct.	Apr. 15	29.3	27.5	32.6	118.5			
(Prices received by farmers)	May 15	26.6	26.9	34.7	129.0			
Butter, wholesale, per pound.....ct.	May	26.18	26.42	34.72	131.4			
(92 score, Chicago)	June	26.26	26.27	34.75 <u>d/</u>	132.3			
American cheese, wholesale, per pound.....ct.	May 15	13.05	13.00	18.00	138.5			
(Twins, Plymouth, Wisconsin)	June 15	13.05	13.00	18.00	138.5			
Milk, wholesale, per 100 pounds.....dol.	Apr. 15	1.70	1.74	1.91	109.8			
(All purposes, prices received by farmers)	May 15	1.61	1.66	1.94 <u>a/</u>	116.9			
Milk for city distribution, per 100 pounds...dol.	May	2.15	2.18	2.27	104.1			
(Prices paid by dealers, 3.5% basis)	June	2.14	2.18	2.29	105.0			
Milk, retail, delivered, per quart.....ct.	May	11.84	12.04	12.52	104.0			
(Average, 25 markets)	June	11.79	12.06	12.62 <u>a/</u>	104.6			

/ Preliminary. b/ Preliminary revision. c/ Forecast or interpolation. d/ Price June 14.

Milk production in May was about 7 percent above production in May last year. There are about 2 percent more milk cows on farms, and milk production per cow was about 7 percent higher on May 1 when the unusually early pasture season stimulated production in the northern States, and 3 percent higher at the end of the month when drought conditions were beginning to pinch production in some areas.

In the first 5 months of 1941 preliminary estimates indicate that production of milk has been two and one-third billion pounds greater than in the same period last year, an increase of about 5 percent.

Daily per capita production of milk in May was the highest for the month in a dozen years and was about as high as is usually reached in June.

MONTHLY MILK PRODUCTION ON FARMS, UNITED STATES
1935-39 Average, 1940, and 1941

Month	Monthly total				Daily average per capita			
	Average :		:		Average :		:	
	: 1935-39 :	1940	: 1941	: 1941	: 1940 :	1935-39 :	1940	: 1941
	Million pounds			Pct.	Pounds			
January	7,480	7,952	8,448	106	1,871	1,950	2,058	
February	7,124	7,801	8,008	103	1,957	2,044	2,159	
March	8,342	9,006	9,331	104	2,084	2,207	2,271	
April	8,928	9,444	10,020	106	2,304	2,390	2,519	
May	10,719	11,076	11,826	107	2,676	2,712	2,876	
Jan.-May, Inc.	42,593	45,279	47,633	105.2	2,182	2,263	2,380	
June	11,195	11,805	--	--	2,886	2,985	--	
July	10,443	10,865	--	--	2,604	2,657	--	
August	9,330	9,812	--	--	2,325	2,398	--	
September	8,338	8,880	--	--	2,145	2,241	--	
October	7,992	8,510	--	--	1,989	2,077	--	
November	7,303	7,845	--	--	1,876	1,977	--	
December	7,516	8,076	--	--	1,868	1,968	--	
Yearly total	104,710	111,072			2.216	2.301		

Milk production per cow reported by crop correspondents on June 1 was higher than has previously been reported during the 17 years of record. In addition to a new record for the United States as a whole, new high records were set for the North Atlantic, East North Central and West North Central groups of States, for the New England States as a group and for many individual States including New York, Illinois, Wisconsin, Minnesota, Kansas, Nebraska, and North Dakota. In Pennsylvania, Indiana, Michigan, South Dakota, Colorado, Montana and Idaho the June 1 rate of production has been equalled or exceeded in only one previous year.

On the other hand, in areas south of the Ohio and Potomac Rivers and in parts of Ohio the deterioration of pastures and the shortage or expected shortage of feed was beginning to affect milk production before June 1. In Virginia, West Virginia, and Tennessee production per cow was below the 10-year average for June 1 and in Ohio and Kentucky production per cow barely exceeded average.

In the Western group of States, the proportion of the cows reported in production on June 1 was smaller than a year ago, and milk production per cow was reported lower than the exceptionally high record set last year.

For the country as a whole, June 1 milk production per cow in herds kept by crop correspondents averaged 18.55 pounds, compared with 18.03 pounds a year ago, and previous June 1 figures ranging from 15.11 pounds in 1934 to 17.99 pounds in 1938. In crop correspondents' herds 77.1 percent of the milk cows were reported milked on June 1, somewhat less than the 77.4 percent reported for the date in 1938 and 1939 but higher than for any other June 1 of record.

The condition of dairy pastures on June 1 showed marked regional contrasts, with unusually good grazing conditions prevailing from the Great Plains westward and in the western Great Lakes region, but with pasture feed extremely short in Eastern and Southeastern portions of the country where lack of moisture had resulted in near drought conditions. For the country as a whole the condition of dairy pastures was 78 percent of normal, 5 points below condition June 1 last year but somewhat above the 1930-39 average for the date. Additional rainfall since the first of the month appears to have greatly improved pasture prospects in important dairy sections from the Ohio Valley northeastward through much of New York and southern New England, but locally in the eastern half of the Cotton Belt drought conditions still remain serious.

The poor condition of pastures in the Eastern part of the country reflected a shortage of May rainfall following below normal precipitation in earlier months of the current year. In the North Atlantic States where warm weather started pastures unusually early this year, June 1 condition of pastures showed a marked decline from a month earlier. In Pennsylvania, New Jersey, Massachusetts and Rhode Island, June 1 pasture conditions were the lowest for the date in three quarters of a century, while in New York and Connecticut June 1 conditions closely approached record low. In most of this area pastures were as usual providing a fairly adequate supply of nutritious feed through May but they were becoming short and lacked the reserve supply of grass usually produced by the first of June. Weather conditions will, therefore, need to be favorable to maintain the usual supply of pasture feed. In the Southeast, June 1 drought conditions were even more severe with pastures very short in an area extending from southwestern Georgia northeastward through western Maryland. In the South Atlantic region, dairy pasture condition averaged about the same as the June 1 record low in 1936. Since the first of June rains have helped some of these areas but in many places subsoil moisture is lacking and there appears to have been no adequate relief from the drought situation in much of Georgia, Florida, and Mississippi.

On the other hand, milk cows in many of the more important mid-western and western dairy manufacturing regions were well supplied with pasture feed on June 1. In the western Great Lakes States, as a group, the condition of pastures was better for the date than in 6 of the past 7 years. From the Great Plains westward June 1 pastures were almost uniformly excellent and were furnishing milk cows an abundance of green feed. In some areas of Iowa, Missouri, and Arkansas pastures were only fair on June 1, but have received extensive rains since and were materially improved by mid-June.

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DAIRY PRODUCTION

State	Milk Produced per Milk Cow in Herds Kept by Reporters 1/			Condition of Dairy Pastures 2/		
	June 1	June 1	June 1	June 1	June 1	June 1
	Av. 1930-39:	1940	1941	Av. 1930-39 :	1940	1941
	Pounds			Percent		
Me.	15.9	15.3	18.8	81.7	84	80
N.H.	16.6	17.1	17.6	83.0	85	74
Vt.	18.3	19.7	20.6	85.9	90	75
Mass.	19.7	20.8	21.1	81.6	87	66
R.I.	3/	3/	3/	80.8	86	71
Conn.	19.2	19.9	19.4	83.1	89	73
N.Y.	23.2	23.8	24.6	79.6	90	65
N.J.	21.6	21.4	22.0	79.0	88	56
Pa.	20.9	22.7	22.1	79.3	88	63
N. ATL.	21.06	22.06	22.38	80.5	88.6	66.3
Ohio	19.8	20.3	19.9	76.3	84	67
Ind.	17.8	18.5	18.8	78.4	89	73
Ill.	17.8	19.4	20.0	77.9	85	86
Mich.	22.2	22.8	23.3	81.3	88	85
Wis.	22.2	23.0	24.9	77.9	83	87
E.N.CENT.	20.46	21.15	22.34	78.2	85.0	81.4
Minn.	20.4	21.1	22.7	75.9	79	88
Iowa	18.2	20.3	19.4	77.8	84	80
Mo.	12.9	13.2	13.1	76.5	80	72
N.Dak.	16.3	20.1	21.0	58.7	85	91
S.Dak.	16.0	17.4	18.4	65.4	76	81
Nebr.	17.2	18.8	19.3	71.7	61	78
Kans.	17.0	17.7	18.4	69.7	76	86
W.N.CENT.	17.05	18.62	19.23	73.1	78.3	82.8
Del.	3/	3/	3/	77.7	86	62
Md.	17.1	18.7	18.3	77.2	86	60
Va.	13.4	14.0	13.0	77.7	79	41
W.Va.	14.0	13.7	13.3	75.1	69	61
N.C.	12.5	12.5	13.0	75.8	73	55
S.C.	10.9	11.7	11.1	69.4	69	45
Ga.	9.2	9.6	10.0	74.3	66	50
Fla.	3/	3/	3/	72.7	65	61
S. ATL.	12.37	13.18	13.03	75.4	74.1	52.3
Ky.	14.0	13.6	14.1	78.4	80	59
Tenn.	12.1	11.8	12.0	77.8	74	51
Ala.	9.0	9.4	9.3	76.8	72	56
Miss.	8.8	7.8	8.0	77.8	71	68
Ark.	10.6	10.6	11.5	80.4	83	71
La.	3/	3/	3/	78.8	76	83
Okla.	13.1	13.2	13.8	69.5	79	90
Tex.	10.6	10.1	11.4	74.0	74	96
S.CENT.	11.24	11.18	11.61	75.7	76.2	74.8
Mont.	17.0	19.7	19.7	72.9	90	82
Idaho	20.7	22.6	23.0	84.7	93	96
Wyo.	15.7	18.5	17.7	77.7	87	95
Colo.	16.1	18.3	19.5	74.8	79	92
N.Mex.	3/	3/	3/	66.0	83	100
Ariz.	3/	3/	3/	82.2	73	92
Utah	3/	3/	3/	77.5	82	96
Nev.	3/	3/	3/	83.4	96	87
Wash.	22.1	23.9	23.4	81.7	95	94
Oreg.	20.4	22.8	22.5	83.6	92	95
Calif.	20.3	22.5	20.0	77.0	91	94
WEST.	18.67	21.28	20.92	78.6	89.5	93.2
U. S.	17.04	18.03	18.55	76.8	82.6	77.8

1/ Averages represent the reported daily milk production of herds kept by reporters divided by the total number of milk cows (in milk or dry) in these herds. Figures for New England States are based on combined returns from Crop and Special Dairy reporters and are weighted by counties. Figures for other States, regions, and U. S. are based on returns from Crop Reporters only.

2/ State averages are based on reports by crop correspondents. For regional and U. S. averages the States are combined in proportion to the importance of pastures to dairy production on June 1.

3/ State averages omitted because of instability, but reports are included in arriving at regional averages.

MILK AND BUTTERFAT PRODUCTION PER COW ON FARMS AND SOME RELATED FACTORS

State	Annual production per milk cow				Butterfat:	Milk cows per farm: 1939 Census 1/	Percent of:	Percent of:
	Milk		Butterfat		test of		milk used	year cows
	1930-39	1940	1930-39	1940	milk		on farms	reported
	Lb.	Lb.	Lb.	Lb.	Pct.	No.	Pct.	Pct.
Me.	4,603	4,780	190	201	4.2	4.4	22	78.5
N.H.	4,857	4,900	189	191	3.9	6.3	13	77.1
Vt.	4,855	5,100	197	209	4.1	13.5	7	78.7
Mass.	5,835	5,980	224	233	3.9	8.0	10	82.3
R.I.	6,257	6,450	241	248	3.85	10.6	7	85.5
Conn.	5,606	5,780	215	225	3.9	8.1	11	81.5
N.Y.	5,468	5,730	201	218	3.8	11.0	9	79.3
N.J.	6,415	6,510	236	240	3.68	10.6	8	81.1
Pa.	5,145	5,350	195	203	3.8	6.4	14	79.8
Ohio	4,440	4,570	182	187	4.1	5.0	19	76.4
Ind.	4,121	4,350	171	181	4.15	4.5	18	72.7
Ill.	4,539	4,890	172	186	3.8	5.3	16	71.6
Mich.	5,104	5,450	194	207	3.8	6.0	14	81.0
Wis.	5,467	5,850	200	214	3.65	12.1	8	79.4
Minn.	4,805	5,150	180	193	3.75	9.0	11	74.8
Iowa	4,358	4,780	166	182	3.8	6.7	13	69.6
Mo.	3,488	3,750	146	158	4.2	3.8	27	63.5
N.Dak.	3,770	4,330	142	162	3.75	7.0	21	68.7
S.Dak.	3,542	3,830	134	146	3.8	6.5	19	67.0
Nebr.	4,110	4,280	156	163	3.8	5.4	22	71.2
Kans.	3,914	4,040	153	158	3.9	5.0	21	69.0
Del.	4,000	4,240	156	165	3.9	5.4	17	75.9
Md.	4,323	4,580	171	181	3.95	6.4	15	77.9
Va.	3,467	3,640	142	149	4.1	2.7	48	66.1
W.Va.	3,483	3,460	146	145	4.2	2.6	54	70.9
N.C.	3,666	3,870	158	170	4.4	1.7	66	72.9
S.C.	3,386	3,520	149	155	4.4	1.6	64	68.6
Ga.	3,111	3,200	137	141	4.4	1.9	65	64.0
Fla.	2,850	2,770	123	119	4.3	3.4	33	51.7
Ky.	3,479	3,500	150	150	4.3	2.5	51	68.9
Tenn.	3,309	3,360	146	148	4.4	2.6	48	70.7
Ala.	3,114	3,150	138	140	4.45	1.8	72	61.9
Miss.	2,652	2,450	119	110	4.5	2.4	55	58.2
Ark.	2,975	3,040	128	131	4.3	2.5	57	62.2
La.	2,273	2,180	100	96	4.4	2.4	59	48.6
Okla.	3,357	3,380	143	144	4.25	4.3	36	64.2
Tex.	3,100	3,150	136	139	4.4	3.4	43	61.0
Mont.	4,130	4,630	161	181	3.9	4.4	23	68.8
Idaho	5,478	5,850	216	231	3.95	5.4	15	76.8
Wyo.	4,007	4,450	154	171	3.85	5.1	24	66.3
Colo.	4,193	4,660	159	177	3.8	5.0	22	72.8
N.Mex.	3,381	3,700	135	148	4.0	3.4	30	68.5
Ariz.	5,037	5,230	194	201	3.85	5.6	19	77.7
Utah	5,346	5,660	203	215	3.8	4.5	22	75.5
Nev.	5,311	5,550	202	211	3.8	7.4	14	75.4
Wash.	5,869	6,100	238	247	4.05	5.3	16	77.2
Oreg.	5,292	5,620	228	253	4.5	5.2	16	76.4
Calif.	6,548	6,730	249	256	3.8	11.8	9	76.2
U.S.	4,337	4,575	170.6	180.3	3.94	4.7	21	71.8

1/ Cows milked during 1939 per farm reporting cows milked.

2/ Estimated quantity of milk used in farm households as milk, cream and home made butter plus milk fed to calves, as percentage of all milk produced.

3/ As indicated by averaging 12 first of month percentages each showing the number of cows reported milked as a percentage of the number of all milk cows on the farms of crop correspondents. Cows not milked were mostly dry or had calves sucking.

MILK AND BUTTERFAT PRODUCTION PER COW ON FARMS AND SOME RELATED FACTORS (Con'd)

State	Value		Cows of		Grain fed per		Alfalfa		Dairy pastures: Seasonal	
	of milk		dual		milk cow		as		average condition	
	cows per		purpose		per day 6/		percent			
	head		breeding:				of all			
	4/	Jan. 1,	Census	1929 5/	1933-39	1940	1940	1920-29	1930-39	1940
	Lb.	Dol.	Pct.	Lb.	Lb.	Pct.	Pct.	Pct.	Pct.	Pct.
Me.	850	57.00	4.8	4.4	4.7	1	85.0	80.7		82
N.H.	900	75.00	3.5	4.4	4.5	2	87.1	80.1		84
Vt.	900	67.00	.6	4.3	4.4	3	89.5	83.0		87
Mass.	900	88.00	4.7	6.1	6.4	3	84.7	78.6		81
R.I.	900	91.00	1.8	6.5	6.5	4	84.8	77.4		84
Conn.	900	90.00	1.7	5.5	6.0	10	84.1	79.4		86
N.Y.	850	78.00	3.0	4.8	5.4	12	82.4	72.9		84
N.J.	850	120.00	2.9	7.3	7.4	31	80.9	73.6		77
Pa.	800	76.00	6.0	5.8	6.2	13	81.6	72.5		82
Ohio	900	58.00	9.3	5.5	6.0	25	83.0	70.4		77
Ind.	900	58.00	11.5	5.5	5.7	28	81.6	70.6		72
Ill.	900	63.00	16.9	5.6	6.4	25	80.9	69.2		72
Mich.	875	65.00	9.0	4.7	5.4	49	77.8	68.2		86
Wis.	850	71.00	4.3	3.8	4.6	39	80.1	67.7		84
Minn.	900	61.00	14.1	3.9	5.0	39	77.1	65.9		74
Iowa	925	62.00	35.0	5.4	6.6	35	84.4	70.4		81
Mo.	850	49.00	22.4	3.6	4.4	15	83.8	65.0		75
N.Dak.	875	55.00	36.8	2.5	3.7	7	77.1	52.6		74
S.Dak.	900	56.00	49.5	2.5	3.2	15	77.1	52.1		64
Nebr.	925	59.00	50.9	3.4	3.9	39	83.0	61.6		51
Kans.	900	54.00	36.6	3.5	4.2	43	83.4	59.2		65
Del.	800	68.00	3.2	5.7	6.0	12	77.5	74.3		78
Md.	800	61.00	4.6	5.7	6.3	13	77.6	71.9		78
Va.	800	47.00	12.2	4.1	4.6	12	80.7	75.1		86
W.Va.	800	46.00	20.4	3.5	3.7	8	85.4	72.4		78
N.C.	700	42.00	5.7	4.3	4.6	2	83.0	76.4		77
S.C.	700	40.00	5.9	3.6	3.6	1	77.1	67.8		67
Ga.	700	35.00	8.5	2.9	3.6	2	79.8	71.3		72
Fla.	700	39.00	17.3	4.3	5.2	-	85.7	77.2		77
Ky.	800	45.00	7.7	5.2	5.6	19	84.1	73.2		73
Tenn.	750	42.00	7.5	4.2	4.6	9	82.1	71.8		72
Ala.	700	35.00	6.8	3.8	4.3	1	79.5	72.5		73
Miss.	700	32.00	7.5	2.7	2.5	12	81.1	72.1		74
Ark.	700	35.00	11.2	3.0	3.4	12	80.6	68.4		77
La.	700	36.00	18.3	2.5	2.9	10	82.5	73.3		78
Okla.	800	42.00	17.8	3.0	3.9	37	80.5	59.2		70
Tex.	750	38.00	12.3	3.0	3.7	19	80.2	66.3		72
Mont.	900	61.00	48.9	2.4	2.8	49	84.1	64.1		82
Idaho	900	59.00	15.8	2.2	2.3	82	85.1	78.6		85
Wyo.	850	58.00	52.2	1.9	2.0	53	92.9	72.3		78
Colo.	850	52.00	36.5	2.7	3.4	64	85.9	66.0		67
N.Mex.	800	44.00	27.3	2.9	4.5	77	78.1	66.7		72
Ariz.	800	61.00	14.2	1.9	2.0	81	82.3	83.0		75
Utah	850	57.00	14.8	1.7	2.4	88	85.6	72.1		70
Nev.	850	71.00	25.9	.4	.1	60	85.9	79.8		90
Wash.	850	58.00	9.0	4.0	4.0	41	79.8	74.0		79
Oreg.	800	51.00	10.3	3.3	3.4	39	85.9	76.5		81
Calif.	800	64.00	7.0	2.7	3.4	69	81.0	74.5		85
U. S.		57.24	16.0	4.1	4.7	32	81.5	69.2		77.2

4/ Approximations based in part on slaughter records.

5/ Cows reported as milked and as "mainly of beef or dual purpose breeding" as a percentage of all cows milked. Probably excludes many cows of mixed breeding.

6/ "Grain, including mill feed and concentrates" reported fed per milk cow on hand; average of reports from crop correspondents on Feb. 1 and Dec. 1. Does not indicate yearly average. mbp

REGIONAL VARIATIONS IN PRODUCTION PER COW

Marked and persistent regional and local variations are noted in the quantities of milk and butterfat produced per milk cow. The larger variations have continued through many years because they are determined primarily by basic differences in soils, climate, and density of population, and by the related differences in quality of pastures, feed supply, size of herds, and breed and quality of cows. Within the limits set by natural conditions in each area and within the limits of the national and local demand for dairy products, production per cow in each State varies from year to year depending on pastures, feed supplies, prices and other controlling factors. As a result there are constant small but important and often disturbing changes in local production per cow and in the regional distribution of the national milk supply.

The factors affecting production vary between States. It is evident from the records that typical Northeastern dairymen watch the spread between their milk checks and their feed bills and adjust their rates of feeding accordingly; that Corn Belt farmers are on the lookout for opportunities to increase their returns by varying the proportions of their feed going to cows, hogs and hens; and that some Southwestern farmers observe the prices of cattle and butterfat and vary the age at which the calves are shifted to skim milk. And while these men watch market prices, a large number of one-cow farmers continue to secure each day only such milk as their families need to increase the rate of feeding only when necessary and to allow all surplus milk to be taken by the calves.

The diversity of conditions brings about some strangely contrasting results. In one Southern coastal county with piney-woods pasture, \$8 land and mostly beef cattle, the 1940 census shows a third of the "farmers" milking no cows and the rest obtaining an average of only .6 gallons of milk per farm per day and only a little over 100 gallons per cow per year. In a neighboring county with a fluid milk market the record shows the producing farms average nearly 20 gallons of milk per day and 620 gallons per cow per year. In Los Angeles County, California, on the other hand, the Census shows more than 2,000 milk producers, with milk production averaging 108 gallons per day per producing farm and more than 1,000 gallons per cow per year. Yet in each of these areas production per cow was probably close to the level that was most profitable under the conditions prevailing.

The tables on pages 8 and 9 show the estimates of milk and butterfat production per cow in 1940 and recent years and also details for the factors which need to be considered in making comparisons between States.

The butterfat test of the milk depends on the breed of the cows. In general, the higher the test in a State, the lower the milk production per cow may be expected to be.

The number of milk cows per farm is closely related to the type of dairying followed in a community. With the exception of some one-cow farms, it appears to be generally true that in each area production per cow averages higher on farms with large dairy herds than where fewer cows are kept, chiefly because on farms with large herds the cows are more carefully selected and more abundantly fed, fewer beef type cows are milked, fewer calves are allowed to suck, and often the milk has a lower test and more of it is sold for fluid consumption at a price that permits the intensive methods of dairying followed. When different regions are compared the States with small herds show mostly low production per cow but the apparent relation is partially one of location for there are few large herds where conditions are unfavorable for intensive dairying.

The percentage of the milk produced that is used on the farms where produced shows where production is largely for home consumption. The proportion sold probably affects the promptness of the response to price changes, but where most of the milk is normally used on the farms commercial deliveries may show large percentages of change.

The percent of the year the cows are milked, as calculated from the monthly reports of crop correspondents showing the number of cows milked and number of milk cows on their farms on the first of each month, indicates where production per cow is reduced either by a lengthened dry period or by the practice of allowing calves to suck. This record reveals wider regional differences in practices than most dairymen realize exist and changes in this percentage are a major factor affecting regional trends in production per cow.

The relative producing capacity of the milk cows in the various States is not known but the estimates of average weight and average value, and the percentage reported in 1929 as chiefly of beef or dual purpose breeding all furnish useful clues. Of the 16 States where the cows weigh less than about 800 pounds or were worth less than \$50 per head on January 1, 1940, there was only one State (North Carolina) where butterfat production per cow averaged over 158 pounds in 1940. In only one other State (South Dakota) was production lower than that.

The kind of feed the cows in each State obtain is one of the most important and also one of the most changeable factors affecting the level of production per cow. The records of grains and concentrates reported fed, alfalfa production, and the condition of pastures show a few of the differences and changes. In general, liberal feeding of either grain or alfalfa has been necessary for heavy production per cow. The records of pastures show only how the reported condition compared with other periods in the same States. Figures on the relative abundance and nutritive qualities of the pasturage would no doubt help to explain many other differences between States.

In addition to the items shown this month there are numerous other factors of importance. Thus the prices received for dairy products, the relation of prices received to the cost of feed, and the relation of the price of grains and concentrates to the price of hay shown in last month's issue, all affect the method of feeding and the production per cow. In 1940 the local price of a ton of grain and concentrates was equal to the price of 2 tons of hay in New Jersey, 3 tons in Iowa and 4.6 tons of hay in North Dakota. Such a difference tends to promote relatively heavy feeding of concentrates in New Jersey and of hay in North Dakota and to increase the difference in average production per cow.

